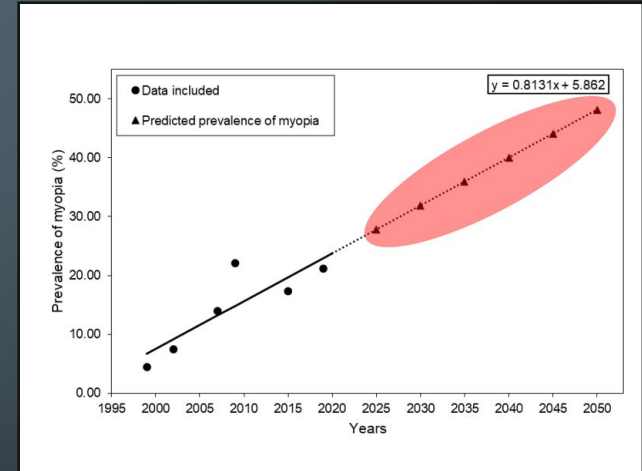


# Myopia Boom in India

- The prevalence of **Myopia** among Indian urban **Children** is predicted to increase from **20%** in year 2020 to about **48%** by 2050
- Worldwide, **5 billion** individuals to become myopic by **2050**

Implementation of anti-myopia strategies could counteract the future myopia boom



*Time trends on the prevalence of myopia in India -  
A prediction model for 2050*

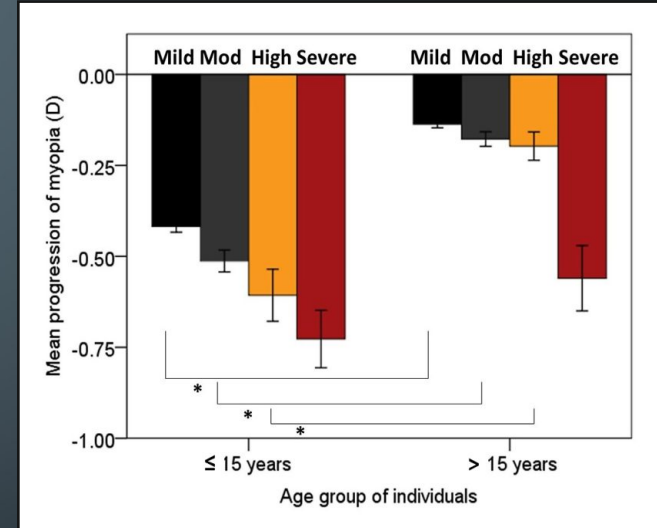
*Ophthalmic Physiol Opt. 2021;41(3):466-474.*



*Myopia Awareness Week*

# Myopia Progression in India

- On an average, Indian myopes progress by about **0.50 D** every year
- **17%** of children tend to show rapid myopia progression (**>1D** change/year)
- High myopes show greater progression than the mild ones **irrespective of age**
- Efforts to control progression at an early age may prevent kids from developing high myopia



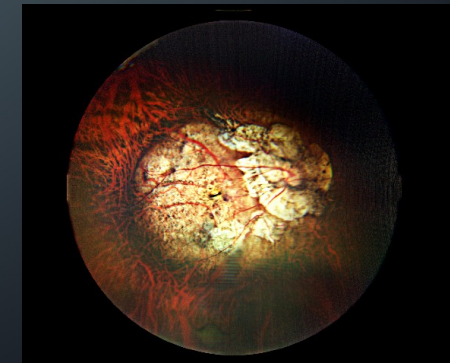
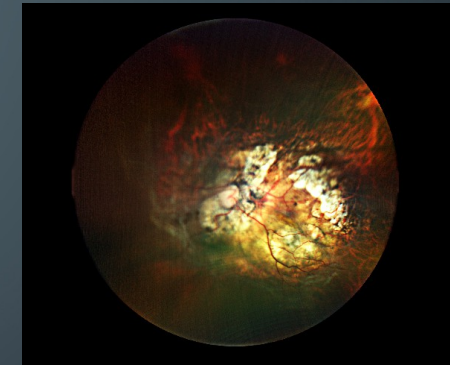
*Myopia progression varies with age and severity of myopia. 2020. PLOS ONE 15(11): e0241759*



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# Pathologic Myopia In India

- About **4%** of the myopes in India tend to have pathologic myopia lesions which are similar to what is reported in East Asian countries
- Myopia-related retinal lesions can occur **even in children** with small amounts of myopic refractive error at any age
- The risk of **sight threatening** complications increases with increasing severity of myopia
- Peripheral retinal examination should be performed to identify myopia lesions **irrespective of age and severity**



*Patterns of posterior ocular complications in myopic eyes of Indian population. 2018 Sci Rep 8, 13700*




# Time outdoors to prevent myopia

- Time outdoors is known to **prevent myopia** and **slow the progression**
- Why is time outdoors protective? A few possible reasons:
  - ✓ Relaxed accommodation, bright ambient light, spectral composition, uniform/flat dioptric space across visual field, effect of dopamine release, and reduced pupil size

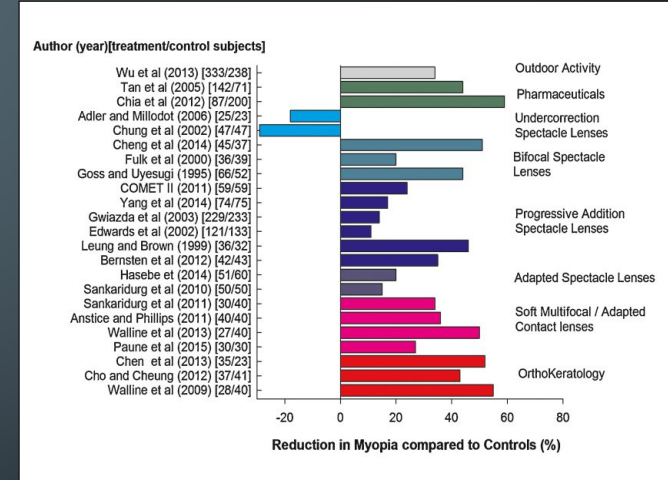
- *A few possible ways to implement:*
  - ✓ **Educate** parents and teachers about the importance of outdoor sunlight exposure
  - ✓ **Advise** to increase time spent in outdoors (**atleast 1 hour/day** preferably in an open play ground)
  - ✓ **Encourage** participation in community and school based outdoor programs



Increasing time in outdoor environment could counteract the rising prevalence of myopia in Indian school-going children. *Curr Science*. 2020;119. 

# Controlling Myopia Progression

- Myopia management is **beyond** mere “**correcting**” with single vision lenses
- “Manage” myopia holistically and provide **anti-myopia strategies**
- Environmental, optical and pharmacological strategies are known to **control** myopia progression
- **Educate** children and parents about the need for anti-myopia strategies



Cont Lens Anterior Eye. 2016;39(2):106-16



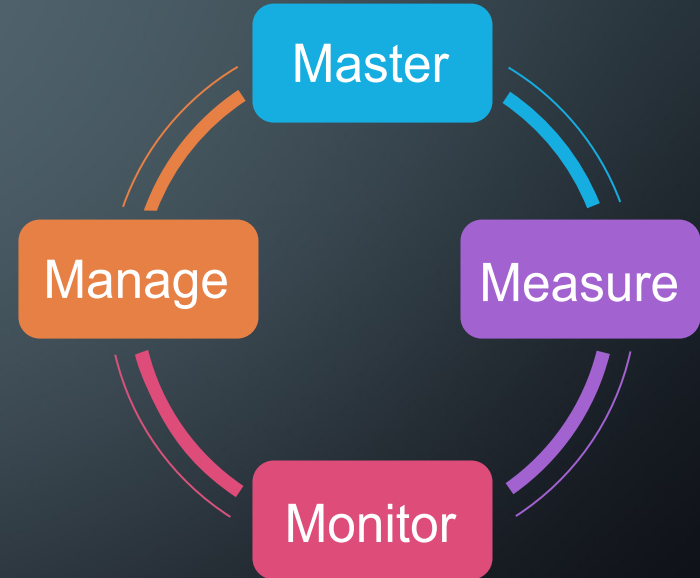
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# The Myopia Mantra

**The Four Ms** to remember in myopia management

- **Master** – Understand multi-factorial nature of myopia causation
- **Measure** - the 'X' factors i.e. estimate/quantify the possible myopia risk factors
- **Monitor** - the refractive error (progression) closely (3-6 monthly to see the changes)
- **Manage** - with appropriate anti-myopia strategy (clearly myopia management is beyond providing single vision correction)



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